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ABSTRACT

In this study, the uses and gratifications theory was applied to investigate the Internet users' motivations and their relationship with attitudes toward the Internet as well as types of Web site visited by users. Subjects were 185 college students who completed a self-report questionnaire. Four motivations and five types of Web sites were discovered via factor analysis. Differences among heavy, medium, and light users of the Internet were also analyzed in terms of their motivations, types of Web sites frequently visited, and attitudes toward the Internet. Study results suggest that users' motives are significant predictors of positive attitudes toward the Internet, and there exist associations between certain motivational factors and types of Web sites. (Contains 45 references and 5 tables of data.) (Author/RS)

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Internet Uses and Gratifications: Understanding Motivations for Using the Internet

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Abstract

Internet Uses and Gratifications:
Understanding Motivations for Using the Internet

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In this study, the uses and gratifications theory was applied to investigate the Internet users' motivations and their relationship with attitudes toward the Internet as well as types of Web site visited by users. Four motivations and five types of Web sites were discovered via factor analysis. Differences among heavy, medium, and light users of the Internet were also analyzed in terms of their motivations, types of Web sites frequently visited, and attitudes toward the Internet. Study results suggest that users' motives are significant predictors of positive attitudes toward the Internet, and there exist associations between certain motivational factors and types of Web sites.

Introduction

The Internet is no longer considered a communication medium for only a certain group of people. Currently, about 130.6 million people are visiting more than 14 million domains of the Internet (Reuters, 1999 at URL: http:// www. internetnews. com; DomainStats, 1999 at URL: http://www.domainstats.com) and the numbers are still increasing at a rapid rate. Accordingly, the demographic profile of Internet users has become similar to that of the general population (Korgaonkar and Wolin, 1999). Moreover, as access to the Internet gets easier and less expensive, the medium is even expected to replace the position of television within a few years (Negroponte, 1995).

With respect to the numerous unique features that distinguish the Internet from other traditional media, the versatility and interactivity of the Internet should be considered as the main reasons that the medium is a substantial communication tool. According to Eighmey (1997), the Internet is the most versatile mass medium because it can deliver text, graphics, images, audio, and video at the same time. That also means the Internet single-handedly performs several distinguished functions of traditional mass media, such as television, radio, newspaper, magazine, and even telephone (Atkin, et al., 1998). On the other hand, it should be noted that the Internet allows for an interactive many-to-many communication circumstance (Ghose and Dou, 1998). Therefore, the traditional meaning of "receiver" and "sender" in one-to-many communication has been nullified by the Internet.

Considering such revolutionary changes caused by the Internet, it is natural that the medium has become one of the popular scholarly subjects for many researchers in the field of mass communication. However, it still seems that a few studies done so far deal with indications concerning why and how people use the Internet, while many of the previous Internet studies tried to

explore such unprecedented effects and functions brought by the Internet (Korgaonkar and Wolin, 1999). Moreover, it also seems that there exists only a crude understanding of the reasons why people choose a certain type of Web site to visit although the Internet has provided innumerable and diverse selections for its users.

It seems inevitable that user needs and expectations toward the Internet should be examined to better understand its potential popularity. The main objective of this study is to examine the motives of Internet usage and the relationship with certain types of Web sites as well as attitudes toward the Internet. The major theoretical framework of this study is the uses and gratifications theory because this theory has effectively provided one of the most relevant perspectives to explain psychological and behavioral dimensions involving mediated communication (Lin, 1996).

In this study, the following three aspects of Internet usage are examined: motivations for using the Internet, patterns of surfing the Internet, and attitudes toward the Internet. This study attempts to explain which motivational factors of Internet usage are associated with a certain type of Web sites, and how these motivational factors explain the attitudes toward the Internet. Additionally, this study also investigates differences among heavy, medium, and light users of the Internet in terms of the key aspects of Internet usage. In the following section, uses and gratifications research is reviewed, and then previous Internet-related studies, especially Internet uses and gratifications research, is presented to lay the basis for developing this study's hypotheses and methodology.

Uses and Gratifications Research

The uses and gratifications theory is considered a psychological communication perspective that focuses on individual use and choice by assessing why people use media and the gratifications obtained from the media use (Severin and Tankard, 1997). Katz et al. (1974) said there are three basic tenets in this theory: first, media users are goal directed in their behavior; second, they are active media users; and finally, they are aware of their needs and select media to gratify their needs. Based on these assumptions, it is clearly shown that this theory emphasizes the role of audience initiative and activity (Rubin, 1994).

Since the uses and gratifications theory has a unique perspective on why people use certain media content, this theory has been applied to a wide range of situations associated with meditated communications (Lin, 1999). As a result, evolution of the uses and gratification research has kept pace with development of the communication technologies. This means the audiences' motivations and decisions to use a certain type of mediated communication tool have been investigated by researchers whenever a new technology enters the stage of mass communication (Elliott and Rosenberg, 1987). Therefore, the uses and gratification studies have dealt with virtually every kind of mediated communication tool from traditional media, such as newspapers (Elliott and Rosenberg, 1987), radio (Mendelson 1964), and television (Rubin, 1983; Rubin, 1985; Babrow, 1987; Conway and Rubin, 1991), through nontraditional media, including cable television (Heeter and Greenberg, 1985), VCR (Levy, 1987; Cohen et al., 1988), and computer mediated communication (Eighmey, 1997; Korgaonkar and Wolin, 1999; Lin, 1999). These studies have offered insights regarding the reasons why individuals use a certain medium of communication, sociodemographic descriptors of various types of media users, media behavior, and the relations between expected and obtained gratifications resulting

from certain media use motivations (Rubin, 1994).

The theory also has received its share of criticisms for a number of reasons (Severin and Tankard, 1997). The first and major criticism is that the theory has weak predictive power (Elliot, 1974). Second, critics have argued that there is complexity and vagueness concerning key concepts in the theory, such as needs, motives, and behavior (Swanson, 1979; Rubin, 1994; Severin and Tankard, 1997). Finally, it is difficult to measure internal mental states with the use of self-report data, which is a popular data collection method of this theory (Blumler, 1979; Windahl, 1981).

In spite of the weaknesses that have threatened the validity and reliability of the results of this theory, replication and consistent findings from numerous use and gratifications studies as well as preparation for dealing with such criticisms have refined its theoretical frameworks and consequently provided additional developments in this theory (Rubin, 1994; Lin, 1999). For instance, Rubin (1981) developed ritualized and instrumental media use motivations in order to distinguish between audiences whose media consumption behavior is out of habit with less-defined gratification goals and whose media usage is more intentional and more involved with media content. Therefore, this theoretical development provided a better way to understand audience activity, which is one of the core concepts in the uses and gratification perspective. This means audiences' patterns of media use as well as attitudes and expectations toward media can be more effectively analyzed by these media orientations (Rubin, 1994).

Internet Research

Since the World Wide Web brought unprecedented developments in our society, several researchers in the field of mass communication have tried to understand the Internet and its explosive growth (McDonald, 1997). These numerous and diversified studies dealing with the Internet can be largely divided into two categories according to the major viewpoints of study: what the Internet does to people and what people do with the Internet.

Studies of the Internet and its Effects

As an early attempt to compare new media with traditional media, Hoffman and Novak (1996) presented objective characteristics of each mass medium in terms of interactivity, linked sources, communication model, content, media feedback symmetry, and temporal synchronicity. According to their conceptual map of media typology, the Internet occupies largely intermediate positions as combining properties of mass (impersonal) and face-to-face (personal) communication tools. Furthermore, a considerable number of studies compared the effectiveness of the Internet as a marketing tool to traditional media, especially television. Regardless of predictions that television would soon be largely replaced by the Internet (Negroponte, 1995), some studies showed a sign of interaction between the two communication tools. For instance, Coffey and Stipp (1997) said that television plays an important role in leading viewers to a specific Web site by way of promotions and advertising. For the same reason, Leong et al. (1998) described how advertisers consider the effectiveness of the Internet by comparing it with the eight other main media on a number of key attributes. According to what they found, the Internet could be a potential threat only to direct mail

but complements the other traditional media. A similar study also was conducted in the field of political communication. For instance, Johnson et al. (1999) examined the extent to which heavy users of the Internet differ from heavy users of traditional media during the 1996 Presidential campaign. As a result, they found that the Internet has a weak impact on the knowledge of the issue stances as well as the images of the two candidates.

Studies of Internet Users

Past studies of Internet users have mostly examined an adoption process of the Internet, demographic profile of users, and needs and motivations using the Internet. Considering the relatively short history of the Internet in the field of mass communication, many studies dealing with Internet users seem to adopt either the diffusion of innovation perspective or the uses and gratifications perspective.

The diffusion of innovations perspective explains how innovations (new ideas, practices, objects, etc.) become known and are spread throughout a social system (Severin and Tankard, 1997). From this perspective, Internet usage is regarded as an innovative activity. Therefore, the studies of this perspective mainly examined the demographic profile of Internet users, their Internet use habits, and their orientation toward adopting new technologies (Atkin et al., 1998). In addition, a number of studies also investigated the adoption process of several applications of the Internet. For instance, James et al. (1995) studied adoption and social impact issues of electronic bulletin board users. As a result, they found that most people post and read messages mainly to give or get information-- not for fun and socializing. The results of this study imply that motivations for using the computer-mediated communication tool were still one-dimensional toward the informative purposes at that time.

However, a number of later studies showed other motivations, such as entertainment and socialization, from Internet users (Korgaonkar and Wolin, 1999; Lin, 1999). With respect to the demographic profiles of Internet users, Lin's study of personal computer adoption dynamics (1998) suggested that age and income are major influential factors on PC adoption. By the same token, the study of Atkin et al. (1998) showed that demographics still have more impact on Internet adoption than communication needs served by the new technology in its early stages of diffusion. However, Korgaonkar and Wolin predicted that the role of demographics in determining Internet usage characteristics would be constantly decreased as the Internet becomes more mainstream (1999).

On the other hand, many researchers also examined psychological and behavioral tendencies of Internet users under the uses and gratifications perspective (Lin, 1999). Since one of the strengths of the Internet is its "interactivity," it is natural that the uses and gratification perspective, which contains "audience activity" as its core concept, is regarded as one of the most effective theoretical basis to study this medium. As a result, several researchers elaborated this perspective in order to understand why people use the Internet and a number of gratifications derived from its use.

As an early attempt of computer-mediated communication research, Rafaeli (1986) provided that people using university computer bulletin boards are satisfying the following needs: recreation, entertainment, and diversion as well as communication and learning about what others think. A decade later, Eighmey (1997) investigated the users of commercial Web sites based on the findings of previous research on radio and television. The study also found that entertainment value, personal relevance, and information involvement are the three significant motivational factors for surfing commercial Web sites. Korgaonkar and Wolin (1999) examined Internet users' motivations and concerns by categorizing 41 items into the seven factors: social escapism, transactional security and

privacy, information, interactive control, socialization, nontransactional privacy, and economic motivation. Subsequently, they investigated the relationship between the seven motivational factors and the three usage contexts: time spent on the Web, time spent on the Web for business and personal purposes, and purchase from a Web business. As a result, they figured out that the seven factors for using the Internet and demographic factors are significantly correlated with the three usage contexts. The results of their study suggest that people use the Internet not only for instrumental purposes to retrieve information but also for ritualistic purposes to seek entertainment and relaxation. The study of Lin (1999) adopted a little different approach from the previous computer-mediated communication studies of the uses and gratifications theory because she investigated both television and Internet use motives in order to examine the media substitution hypothesis. Furthermore, she also asked the likely online-service adoption, which indicates possibility of visiting a certain Web site, in order to figure out whether motives for the two media are related with the likely online access to a certain type of Web site. As a result, her study revealed that the users' motives for both media are similar to each other but only the motives for using the Internet significantly correlated with the likely online-service adoption.

In sum, it is shown that the uses and gratifications research has been quite effective to understand motivations and concerns for using the Internet. Nonetheless, some uncertainties still exist in whether the Internet users' motivation can explain additional aspects of using the medium. Therefore, the following section will try to understand some of these additional aspects from the uses and gratifications perspective.

Research Hypotheses

This study extends past research of Internet usage studies by examining motivations for using the Internet in terms of the relationship with attitudes toward the Internet and the types of Web sites frequently visited by users. In conceptual terms, it is applicable for this study to follow the theoretical framework drawn from the uses and gratifications theory. In addition, since few previous studies demonstrated differences among heavy, medium, and light Internet users, it also may be useful to investigate these differences in several aspects of the Internet usage.

According to Conway and Rubin (1991), attitude toward a medium can be rated by the level of importance people attach to medium. Past research suggested that attitudes vary among users and play a significant role in explaining why and how people use media (Rubin, 1986). Therefore, it was predicted that positive attitudes toward the Internet would be explained by the salience of certain motivations. Thus, the following research hypothesis is advanced:

H1: Motivations for Internet use will be positively related to attitudes toward the Internet.

As aforementioned, the Internet provides new and diverse opportunities for users to become active. While cable viewers have more than 100 channel options (Heeter and Greenberg, 1985), the number of Web sites available to Internet users is countless. Under such circumstances, it was also predicted that Internet users would decide which Web site to visit based on the two types of media use motivations: instrumental and ritualistic motivations. Therefore, the following hypothesis is posited:

H2a: *Instrumental motivations for Internet use will be positively associated with information types of Web sites*

H2b: *Ritualistic motivations for Internet use will be positively associated with entertainment types of Web sites*

Finally, the majority of Internet studies have compared Internet users with nonusers or Internet shoppers with nonshoppers mostly based on adoption dynamics (Atkin et al., 1998; Lin, 1998; Donthu and Garcia, 1999). Considering that the number of Internet users continues to increase, it also could be useful to make a comparison in terms of its usage level rather than the matter of its usage. For this reason, it was expected that heavy users would have different levels of gratification expectations, visiting different types of Web sites, and different attitudes toward the Internet from medium and light users. Therefore, the following hypothesis is presented:

H3a: *Heavy users will manifest a higher level of motivation in using the Internet than will medium and light users.*

H3b: *Heavy users will visit more Web sites for informational reasons than will medium and light users.*

H3c: *Heavy users will have more positive attitudes toward the Internet than will medium and light users.*

In order to test these hypotheses, the next section presents the research method adopted in this study.

Research Methods

Sample and Data Collection

Survey research is a predominant uses and gratifications method and has been consistently validated by past studies (Rubin, 1981). Therefore, the original data for this study were collected via self-report questionnaire, which has been useful for analyzing motivations and patterns of using media (Conway and Rubin, 1991). The study sample consisted of 196 students from a large southeastern university. Of the surveys collected, 185 were usable for the analyses of this study. For the survey sample, the college student group was considered acceptable due to the fact that this group represents a significant portion of the Internet population. According to the demographic database of *Survey.net* (1999 at URL: http://www.survey.net), students account for approximately 30% of the total Internet users as a majority. For the purpose of this study, only those who have used the Internet were selected to participate in the survey. Respondents ranged in age from 18 to 37. The mean age was 22.52 years (SD=3.32) and the median age was 22 years. The sample was distributed rather evenly among male (47.6%) and female (52.4%).

Internet Usage Motivations

Respondents were asked to indicate their level of agreement with seventeen statements, based on prior research of uses and gratifications, about reasons for using the Internet (Rubin, 1983; Lin, 1999; Korgaonkar and Wolin, 1999). Initially, each statement was derived from the following nine motivational dimensions. These included: (1) *Information* ("To learn about things that are useful" and "Because it helps me solve a certain problem"), (2) *Pass Time* ("To pass the time" and "When I have nothing better to do"), (3) *Entertainment* ("Because it entertains me" and "Because it's enjoyable"), (4)

Surveillance ("To keep up with what's going on in the world" and "To learn about things that I haven't known"), (5) *Social Interaction* ("So I can talk with other people what's going on"), (6) *Habit* ("Because it's a habit, just something I do" and "Because I just like to surf the Internet"), (7) *Escape* ("To forget about school or any other chores in my life" and "I can get away from my problems at hand"), (8) *Companionship* ("When there's no one else to talk to be with" and "To reduce the feeling of loneliness"), and (9) *Interactive Control* ("Because I can decide which site to visit and not to visit by my own free will" and "Because it's interactive"). Although motives are different among individuals with diverse socio-demographic backgrounds (Lin, 1999), these seventeen statements were supposed to cover most of the motivational dimensions of Internet users. A seven-point scale was used ranging from 1 (strongly disagree) to 7 (strongly agree) about each statement. Some statements were modified in the secondary analysis as well as the pretest in order to reflect the Internet as the focus of this study. For instance, *Interactive Control* of this study should be distinguished from *Parasocial Interaction*, which is one of the major motivations for watching television, especially soap operas (Babrow, 1987). While *Parasocial Interaction* implies "to talk back to media personalities" (Lin, 1999), *Interactive Control* means "to freely execute and customize one's own Internet use activity."

Attitudes Toward the Internet

In order to figure out attitudes of respondents toward the Internet, an eight-item attitude index was adapted from prior research of uses and gratifications (Rubin, 1985; Conway and Rubin, 1991). For this purpose, respondents were asked to indicate the level of agreement with each of the eight statements that mention perceived importance of the Internet in their lives. These included: "I would rather surf the Internet than do something else," "My knowledge increases as my Internet usage

increases," "It would be very difficult for me to live without the Internet for several days," "The Internet opens doors that would otherwise be closed," "Everyone should use the Internet," "Surfing the Internet is one of the most important activity I do each day," "Internet users are better-educated people," and "Internet leads to greater self-respect." Again, a seven-point scale was used ranging from 1 (strongly disagree) to 7 (strongly agree). Therefore, a "7" represented the most positive attitude, while a "1" indicated the most negative attitude in each attitudinal statement. The mean of the total attitude index was 3.58 (SD=1.21). The eight-item attitude index had an inter-item correlation of .44 and a .86 internal reliability alpha coefficient.

Internet Usage Patterns

In order to conceptualize the Internet usage patterns, two categories of behavioral aspects were examined: usage level and frequency of visiting certain types of Web sites.

Respondents were asked to report the average amount of time spent per day on the Internet as well as the number of days using the Internet per week or month with reference to what Lin (1998) adopted to measure the traditional media usage level. Regarding the average amount of time, respondents were asked to indicate two separated amounts of time for using the Internet on a usual weekday and weekend day. This question was based on the assumption that the amount of time could be different between weekdays and weekends. Considering the number of weekdays and weekend days in a week, each amount of time was weighted by 5/7 and 2/7 respectively. Then the sum of the two weighted amounts of time was regarded as the average amount of time per day on the Internet. On the other hand, respondents also indicated the frequency of using the Internet on a six-point scale of (1) "6-7 days in a week" through (6) "Less than once or twice per month." The average estimate of

the amount of time per day on the Internet was 121.60 minutes (SD=191.48 and Median=68.57) and 54.6 percent of the total respondents use the Internet almost everyday.

In order to decide the usage level of each respondent for further analysis, this study tentatively cross-classified the total respondents based on the median (68.57) of the average amount of time per day spent on the Internet and whether people use the Internet everyday. For example, if a respondent uses the Internet everyday for more than 68.57 minutes per day, he/she was classified as a "heavy user." On the other hand, if a respondent does not use the Internet everyday and at least 68.57 minutes per day, he/she was classified as a "light user." In cases where a respondent uses the Internet everyday but for less than 68.57 minutes per day or a respondent does not use the Internet everyday but uses the medium for more than 68.57 minutes per day, he/she was classified as a "medium user." As a result, 34.1 percent of the total respondents were classified as heavy users; 36.7 percent were medium users; and 29.2 percent were light users.

In order to measure the frequency of visiting a certain type of Web site and most favorite Web site, classification systems of the two sources were referred in this study: (1) *Net Guide* (Wolff New Media, 1997) and (2) *Yahoo* (Yahoo, 1999 at URL: http:// www. yahoo. com). As a result, fourteen major types of Web sites were selected for the measurement of visiting frequency and preferred types of Web sites. These included: (1) Entertainment, (2) Fun & Games, (3) Sci-Fi & Fringe, (4) Home & Health, (5) Recreation, (6) Shopping, (7) Education, (8) Virtual Newsstand, (9) Identity & Society, (10) Culture, (11) Politics & Government, (12) Business & Economy, (13) Reference, and (14) Computer & Internet. Examples of each type of Web site were provided in the questionnaire for understanding of the respond ts. Each of these fourteen types of Web sites was rated by the respondents in terms of their frequency of visit. A seven-point scale was used ranging from 1 (Not at all) to 7 (Frequently).

Results

The data were analyzed in the following four stages. First, a factor analysis was conducted to analyze the interrelationships among seventeen motivational statements and among fourteen types of Web sites and then to explain these variables in terms of their common underlying dimensions. Second, a multiple regression analysis was used to measure the predictive power of the Internet usage motivational factors on the attitudes toward the Internet. In this analysis, the explanatory variables were the motivational factors derived from the factor analysis, while the response variable was an eight-item attitude index. Third, Pearson Product Moment correlations were run between the Internet usage motivational factors and the types of Web sites, which also were obtained by the factor analysis. Finally, a one-way ANOVA test was conducted to compare heavy, medium, and light Internet users in terms of motivations for using the Internet, types of Web sites frequently visited, and attitudes toward the Internet.

Internet Usage Motivations and Types of Web Site

Four patterns of the Internet usage motivations were determined by a principal factor analysis with iterations and varimax rotation (see Table 1). With eigenvalues of 1.00 or higher and factor loadings of .40 or higher as the criterion, four factors were yielded by explaining 64.15 percent of the variance. Factor 1 (*Social Escapism*) had an eigenvalue of 6.61 and explained 38.88 percent of the common variance. Factor 2 (*Pass Time*) had an eigenvalue of 1.84 and explained 10.84 percent of the common variance. Factor 3 (*Interactive Control*) had an eigenvalue of 1.34 and explained 7.88 percent of the common variance. Factor 4 (*Information*) had an eigenvalue of 1.11 and explained 6.56 percent of the common variance. Considering these four motivational factors in terms of ritualistic

and instrumental Internet use. *Social Escapism* and *Pass Time* were classified as ritualistic motivations because these motivational factors suggested less active and less goal-oriented media use (Rubin, 1994). In contrast, *Interactive Control* and *Information* clearly belonged to instrumental motivations because these factors were based on active and purposive Internet use. The seventeen statements had an inter-item correlation of .34 and a .90 internal reliability alpha coefficient.

Table 1.

Factor Analysis for Internet Usage Motivations

Variables	Factor Loadings			
	1	2	3	4
Factor 1. Social Escapism				
To reduce the feeling of loneliness	.79			
So I can get away from my problems at hand	.79			
When there's no one else to talk to be with	.74			
To forget about schools or any other chores in my life	.67			
Because it's a habit, just something I do	.48			
Factor 2. Pass Time				
To pass the time		.85		
Because it entertains me		.81		
When I have nothing better to do		.65		
Factor 3. Interactive Control				
Because it's interactive			.78	
Because I can decide which site to visit by my own free will			.76	
Because it's enjoyable			.58	
So I can talk with other people what's going on			.48	
Because I just like to surf the Internet			.47	
Factor 4. Information				
To learn about things that I haven't known				.81
To learn about things that are useful				.79
To keep up with what's going on in the world				.64
Because it helps me solve a certain problem				.58
Eigenvalue	**6.61**	**1.84**	**1.34**	**1.11**
Percentage of the total variance explained	**38.88**	**10.84**	**7.88**	**6.56**
Total Percentage		**64.15%**		

On the other hand, the factor analysis also identified five types of Web sites visited by the respondents: *Personal Identity*, *Information*, *Interests*, *Entertainment*, and *Education/Sci-Fi* with eigenvalues of 1.00 or higher and factor loadings of .40 or higher as the criterion (see Table 2). These five factors explained 62.09 percent of the variance. The fourteen types of Web sites had an inter-item correlation of .19 and a .76 internal reliability alpha coefficient. These factor scores were computed and employed in subsequent data analyses.

Table 2.

Factor Analysis for Types of Web Sites (based on frequency of visit)

Variables	**Factor Loadings**				
	1	**2**	**3**	**4**	**5**
Factor 1. Personal Identity					
Culture	.75				
Identity & Society	.73				
Home & Health	.64				
Factor 2. Information					
Virtual Newsstand		.77			
Reference		.59			
Politics & Government		.56			
Business & Economy		.52			
Factor 3. Interests					
Recreation			.76		
Shopping			.69		
Computer & Internet			.40		
Factor 4. Entertainment					
Entertainment				.80	
Fun & Games				.70	
Factor 5. Education / Sci-Fi					
Education					.79
Sci-Fi & Fringe					-.52
Eigenvalue	**3.63**	**1.64**	**1.28**	**1.13**	**1.00**
Percentage of the total variance explained	**25.96**	**11.71**	**9.15**	**8.10**	**7.17**
Total Percentage			**62.09%**		

Predicting Attitude toward the Internet

The first research hypothesis concerns the predictive utility of the Internet usage motivation variables for explaining the attitude toward the Internet (see Table 3). For this purpose, the attitude index is regressed on the four motivation variables. This equation reveals that all the four Internet usage motivations are significant predictors: *Social Escapism* ($p<.001$), *Pass Time* ($p<.01$), *Interactive Control* ($p<.001$), and *Information* ($p<.001$). Overall, 44.6 percent of the total variation is explained by the simultaneous predictive power of all the motivation variables through this multiple regression model. In terms of the relative effects of these four motivation variables, standardized Beta values for the attitude toward the Internet are .30 for *Social Escapism*, .16 for *Pass Time*, .40 for *Interactive Control*, and .42 for *Information*. In sum, it is evident that Hypothesis 1 is supported by this analysis, as all the four motivation variables are significantly predictive of the attitudes toward the Internet.

Table 3.

Multiple Regression Analysis for Predicting Attitude toward the Internet

Explanatory Variables	Unstandardized Coefficients	Standardized Coefficients	t-value	Significance
Intercept	3.58		53.60	.000
Social Escapism	.36	.30	5.36	.000
Pass Time	.19	.16	2.87	.005
Interactive Control	.48	.40	7.21	.000
Information	.50	.42	7.50	.000
Multiple R = .67		**R^2 =44.6%**		
Standard Error of Estimate = .91		**F-ratio = 36.28 (p = .000)**		

Relationship between Motivations for Using the Internet and Types of Web Sites

The second research hypothesis examines the association between the Internet usage motivations and the types of Web sites based on ritualistic and instrumental orientations. For this purpose, the method of Pearson correlation was conducted between the four motivational factors and the five types of Web sites as separate dependent variables (see Table 4).

Several associations were apparent between certain motivational factors and types of Web sites at the .05 level. First, the Social Escapism motivation was only related to the Personal Identity types of Web sites. Second, in the case of Pass Time motivation, it is evident that this factor was associated with the Interests and Entertainment types of Web sites. Third, the Interactive Control motivation was significantly related to the four types of Web sites (Personal Identity, Information, Entertainment, and Education/Sci-Fi), but the Education/Sci-Fi types of Web sites were negatively associated with this factor. Finally, the Information motivation was related to the Personal Identity and Information types of Web sites.

In the case of Pass Time motivation, it is clearly shown that this motivational factor is associated with the ritualistic types of Web sites, while the Information motivation is related with the instrumental types of Web sites. Reasonably, the correlations between the Information motivation and the Information types of Web sites and between the Pass Time motivation and the Entertainment types of Web sites showed strong relationships. However, such a distinctive association between motivations and types of Web sites was not apparent in the case of the Social Escapism motivation and the Interactive Control motivation because these two motivational factors were associated with both ritualistic and instrumental types of Web sites. Based on the results of this analysis, Hypothesis 2 is partially supported.

Table 4.

Pearson Product Moment Correlation between Internet Usage Motivations and Types of Web sites (visited by the Internet users)

Types of Web site / Motivations	Personal Identity	Information	Interests	Entertainment	Education/ Sci-Fi
Social Escapism	.26**	-.07	.08	-.00	-.12
Pass Time	-.03	.06	.23**	.27**	.06
Interactive Control	.19**	.17*	.10	.25**	-.16*
Information	.28**	.46**	.10	.02	-.05

** Correlation is significant at the .01 level (2-tailed).

* Correlation is significant at the .05 level (2-tailed).

Comparisons among the Internet User Groups

The results of the one-way ANOVA comparisons for the three user groups (heavy, medium, and light user) on the three aspects of Internet usage (motivations for using the Internet, types of Web sites frequently visited, and attitude toward the Internet) are presented in this section (see Table 5). In order to specify the differences as well as the similarities among these groups, the mean scores of each of the four motivational factors, the five types of Web sites, and the attitude index were compared in this analysis.

According to the comparison of mean scores for the four motivational factors across the three user groups, all of the four motivations showed statistical significance at the .01 level. Based on the result of this analysis, it is clear that heavy users had a higher level of motivation in using the Internet than did light users. Therefore, Hypothesis 3a is supported by this analysis. Nonetheless, it seems that this result was mainly caused by the differences between heavy users and light users because the Bonferroni's multiple comparison method (Agresti and Finlay, 1997) showed significant evidences of a

difference only between heavy and light users at the .05 level. That means heavy users seemed to have particularly higher gratifications from using the Internet than did light users, while medium users did not show any particular difference from either heavy or light users.

Among the comparisons for frequencies to visit the five types of Web sites across the three user groups, two out of the five types of Web sites are significantly differentiated at the .01 level. Heavy users seemed to more frequently visit the Information and Interests types of Web sites. It is interesting to note that heavy users showed significant between-group differences with light users and medium users in the Information type of Web sites because this type of Web sites is clearly associated with the instrumental Internet usage orientations. Therefore, it is shown that Hypothesis 3b is also supported by this analysis.

Finally, significant differences were found in the attitude index across the three user groups at the .001 level. As expected, heavy users showed more positive attitudes toward the Internet than either light users or medium users. Therefore, it is shown that Hypothesis 3c is strongly supported by this analysis. On the other hand, medium users showed no statistically significant differences from light users in their attitudes toward the Internet.

Table 5.

ANOVA Comparing the Three Aspects of Internet Usage between Heavy, Medium, and Light Users

	Overall	Heavy user	Med. user	Light user	Overall F	Difference in Means*		
						H - L	H -M	M - L
	Mean	Mean	Mean	Mean	Sig.	Sig.	Sig.	Sig.
Motivations for using the Internet								
Social Escapism	2.62	3.05	2.59	2.15	.002	.001	.159	.215
Pass Time	4.08	4.42	4.23	3.52	.007	.008	1.00	.047
Interactive Control	3.70	4.16	3.72	3.15	.000	.000	.182	.060
Information	4.77	5.11	4.74	4.41	.008	.006	.234	.399
Types of Web sites								
Personal Identity	2.17	2.42	2.11	1.94	.075	.079	.377	1.00
Information	3.32	3.85	3.15	2.92	.000	.000	.002	.845
Interests	4.05	4.47	3.95	3.69	.009	.009	.107	.887
Entertainment	3.22	3.37	3.33	2.93	.216	.339	1.00	.410
Education / Sci-Fi	3.52	3.56	3.49	3.52	.904	1.00	1.00	1.00
Attitude toward the Internet	3.58	4.11	3.51	3.06	.000	.000	.009	.085

* For pairwise differences in means among heavy, medium, and light users; the Bonferroni's multiple comparison was conducted at the .05 level.

Discussion

The main objective of this study was to investigate whether motives for using the Internet could explain the two key aspects of the Internet usage: attitude toward the Internet and types of Web sites frequently visited by Internet users. In addition, this study also tried to compare the Internet user groups based on their usage level. The four primary motives for using the Internet (*Social Escapism, Pass Time, Interactive Control,* and *Information*) are consistent with the findings of the previous studies of Internet usage (Eighmey, 1997; Korgaonkar and Wolin, 1999; Lin, 1999). On the other hand, the five types of Web sites via factor analysis (*Personal Identity, Information, Interests, Entertainment,* and *Education/Sci-Fi*) were largely consistent with the study of Lin (1999), which classified twenty on-line service features into the three groupings (*Information, Infortainment, and Shopping*).

As confirmed by the test results of Hypothesis 1, all of the four motivational factors significantly contribute to attitudes toward the Internet. In comparing the relative effects of these four motivational factors on attitudes, it is shown that *Information* and *Interactive Control* seem to have greater impact on attitudes toward the Internet than the other two motivational factors (*Social Escapism* and *Pass Time*). The result suggests that the use of the Internet is more inclined toward the instrumental orientation than ritualistic orientation. That means the Internet is still more considered as "information provider" than "entertainment provider" with free information exploding on the Internet (Korgaonkar and Wolin, 1999). On the other hand, the result also suggests that the interactivity of the Internet plays an important role in allowing people a more positive attitude and use of the medium. Therefore, this result supports the aforementioned supposition that the Internet's interactivity is one of the main reasons that establish the medium as a substantial communication tool.

As each television content type is related with multidimensional psychological gratifications (Lin, 1996), the associations between certain motivational factors and certain types of Web sites produce a similar pattern with television and distinguish the ritualized and instrumental orientations in using the Internet. First, the Personal Identity type of Web site is potentially capable of satisfying those who use the Internet as an exit from reality. This result is consistent with the study of Lin (1999), in which she said, "Perhaps the online access process, as a user-centered activity, evokes the perception of a medium with which the user can identify as a source for personal companionship and escape." Therefore, it could be assumed that those who frequently visit these types of Web sites, such as religion or ethnicity, are likely to be more self-consciousness and to seek for the content that can verify their current position in the society. Second, those who visit the Information type of Web sites, such as virtual Newsstand and reference, are more likely to satisfy their needs for the Interactive control and Information motivations in using the Internet. As Rubin (1984) noted that a person's type of media use can be expected by the ritualized and instrumental media orientations, the strong relationship between the Information type of Web site and these two motivational factors could be an example of the instrumental media uses, which relate to greater exposure to news and informational content (Rubin, 1994). Therefore, it also could be assumed that those who frequently visit these types of Web sites tend to be active and purposive and to seek for potential for interaction from the Internet.
Finally, the needs for Pass Time seem to reflect the ritualistic pattern of the media uses, which mean using a medium more habitually to consume time and for diversion (Rubin, 1984). As ritualistically oriented viewers seek entertainment and relaxation when choosing television program (Lin, 1999), it is evident that there is a relatively strong association between the Pass Time motivation and the Interests

and Entertainment types of Web sites. Therefore, it could be assumed that those who often surf the Internet with less well-defined gratification goals are more likely to visit the Interest or Entertainment types of Web sites, such as showbiz, humor, sports, and shopping. Nonetheless, it is interesting to note that the shopping Web site is related with the Pass Time motives in this analysis. Perhaps this result suggests that the considerable portion of users who visit a shopping Web site might just click and leave without any determined intention to purchase a product or service from the site.

In order to compare the Internet users based on their usage levels, the combination of amount of time spent on the Internet per day and number of days spent using the Internet on a weekly basis was used in this study. As expected, the results reveal that heavy Internet users have a higher level of motivation in using the Internet as well as a more positive attitude toward the Internet. On the other hand, the Information type of Web sites is more frequently visited by heavy users than medium and light users. This result suggests that the instrumental motivation is related with the amount of Internet use. Therefore, it can be assumed that heavy Internet users are more active and more goal-directed in choosing a certain Web site to visit, while light users are more likely to use the Internet with less well-defined gratification goals.

In the new media environment, in which access to the Internet becomes as convenient as television, it is critical to know why and how people use the Internet. Furthermore, as the number of Web sites increase at a tremendous rate, and people become more active with just a few clicks; it is important to figure out how people utilize a variety of surfing options to decide which Web site to visit. For this purpose, this study was a detailed examination of the motivations for using the Internet and the relationship between the motivations and attitudes toward the medium as well as the types of Web sites.

By analyzing a number of motives for using the Internet as well as several types of Web sites,

it is possible to observe some of the representative motivational factors and types of Web sites in this process. Subsequently, the results of the several analyses in this study supported the initial expectations that perceived gratification sought associated with the Internet use would effectively explain or predict the attitude toward the Internet. Moreover, the result of this study would help predict Web site choices of Internet users based on the ritualistic and instrumental Internet use orientations. These results would be useful to understand why and how people use the Internet in this new and evolving field of mass communication.

In addition, this study also examined the Internet users' motivations and concerns in relation to different levels of usage. Given that heavy users have higher motivations and more positive attitudes than light users, it was shown that the usage amount of the Internet is strongly related with the motives and attitudes toward the Internet. Furthermore, heavy users are more involved with contents of Web sites and more likely to visit certain Web sites for informational reasons. Therefore, it is suggested that practitioners and researchers more examine gratification expectations of using the Internet based on the ritualistic and instrumental orientations in order to increase the frequency level of visiting a certain Web site.

Similar to all research endeavors, this study also had its drawbacks. First, the nonrandom sample of college students might weaken the generalizability of these findings to the whole population although the student group does account for the large portion of the total Internet users. Secondly, this study used seventeen statements adapted from previous studies in order to examine motivations for using the Internet. Although past research has largely supported the consistency and accuracy of these statements (Rubin, 1994), the statements used in this study may not be enough to contain all the psychological needs for using the medium. Finally, this study also used the fourteen types of Web

sites based on the two classification sources in order to examine a usage pattern of respondents. Although examples of each type of Web site were provided in the questionnaire, it is possible that indications of respondents might be affected by different Web sites in the same category. Moreover, some types of Web sites may not be mutually exclusive in respondents' mind. Therefore, future research needs to consider consequences or effects of such variations possibly caused by the above limitations.

In spite of some limitations, the findings of this study tried to understand several aspects of Internet usage. Considering that the Internet is one of the fastest-developing media, studies about a variety of users' motivations for specific types of Web sites and specific contents should be continued in the future. In addition, future studies should further examine the differences in gratifications between the Internet and the traditional media. For example, differences could exist in motivations for reading an actual newspaper and reading the newspaper on the Internet. Further research with challenging such developing nature of mediated communication will provide better answers to understand the process and effects of mass communication in the future.

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